

# COLLISION DETECTION METHOD AND APPARATUS FOR MULTIPLE ACCESS COMMUNICATION SYSTEM

## ABSTRACT OF THE DISCLOSURE

A collision detection method for a multiple access communication system is disclosed. By using the error term of a time-domain equalized signal as a detection source, an operation on the error term can be performed to determine whether collision occurs. For example, the mean square error and/or maximum value of the real part and/or imaginary part of the error term can be calculated or selected to distinguish the collision and non-collision situations. A collision detection apparatus for a multiple access communication system is also disclosed. The collision detection apparatus utilizes an existent adaptive equalizer and signal processing device for obtaining received information data bits to obtain the error term. The error term is further processed by a mean-square-error or maximum-absolute-value operator to determine the collision status.